

As a scientist working on 'hard' science and having interest in politics, what do you think of any Marxist who argues that Marxism is a 'science'?



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I am not a working scientist although I do have an undergraduate degree in physics. However, I have long been interested in both Marxism and in the philosophy of science.

Back in the twentieth century, the philosopher Karl Popper, who was one of the leading philosophers of science back then, was also notable as one of the leading critics of Marxism.

Popper was for most of his adult life, politically, a socialist or a social democrat, despite his antipathy towards Marxism. His critiques of Marxism appeared in a number of his works, but probably the most sustained version appears in his book ***The Open Society and Its Enemies Vol 2 the High Tide of Prophecy: Hegel, Marx, and the Aftermath.***

He advanced a number of criticisms of Marxism: he contended that Marxism was, contrary to the claims of its adherents, not a science, on the grounds that its predictions are not falsifiable. For Popper, falsifiability was the key criterion which distinguishes science from non-science, whether in the form of metaphysics or in the form of pseudoscience. Popper contended that Marxism, as presented in the work of Marx & Engels, had originally been scientific. In other words, he took Marx and Engels as having attempted to present theories that were empirically testable and falsifiable. But, he argued, that as predictions made by Marx & Engels were falsified, later generations of Marxists added to these theories ad hoc hypotheses that saved the theories from refutation, but at the cost of stripping them of their original scientific status.

Another criticism that he made of Marxism was the argument that Marxists attempt to predict the future course of societal development and evolution. Marxists typically predict that capitalism will, sooner or later, be succeeded by socialism and then communism. Popper maintained that such predictions or prophecies are impossible. He argued that the materialist conception of history rested, at least implicitly, on a kind of technological determinism but we cannot in fact predict the future course of either science or technology. To be able to make predictions of future science discoveries or technological innovations would, in Popper's view, be the equivalent to our making these discoveries ourselves, which

is absurd. Thus, Popper contended, there cannot be laws of history and it is not really possible to predict the future course of societal development. Popper acknowledged that Marx was a staunch advocate of freedom and democracy, but he maintained that adherence to his doctrines was likely to lead to totalitarianism, contrary to Marx's own best intentions.

Needless to say, Karl Popper's critiques of Marxism enjoyed a great vogue during the cold war era, but according to his biographer, Malachi Hacoen (***Karl Popper - The Formative Years, 1902-1945: Politics and Philosophy in Interwar Vienna***), Popper did not originally formulate these critiques within the context of cold war politics but rather they were formulated within the context of the intramural debates that were going on within the Austrian Social Democratic Party during the 1920's and 1930's. The Austrian Social Democrats were at that time dominated by the party's Austro-Marxist wing, whereas Popper himself was affiliated with the party's anti-Marxist wing which embraced Eduard Bernstein's revisionism (Bernstein was a German socialist and former protégé of Friedrich Engels, who following Engels' death became a critic of Marxism). Many of Bernstein's own arguments against Marxism were recapitulated in Popper's writings. One issue where Popper took issue with the Austro-Marxists was over the issue of violence. The Austro-Marxists were in theory committed to the use of revolutionary violence to overthrow capitalism. However, their actual praxis was one of a strict adherence to legality as they sought to win reforms under the existing order. And the Social Democrats, under their leadership, did indeed win many reforms for a number of years. But this praxis would fail them in the face of the rise of fascism in Austria and Germany. In Popper's view, this contradiction between their theoretical commitments and their actual praxis prevented them from formulating an effective strategy for resisting fascism. The Social Democrats, in Popper's view, were lacking an effective strategy for resisting fascism, either violently or nonviolently.

So to sum up here, while Popper had great respect for Marx as a social analyst and critic, he rejected claims that Marxism was a science, just as he rejected claims that psychoanalysis was a science (Popper seems to have had much more respect for Marx than he did for Freud).

Some years ago, I made a stab at discussing Marxism and the philosophy of science when I wrote the following concerning Popper. Please note the last paragraph where I discuss Richard W. Miller's linkage between a post-positivist philosophy of science and what he calls the 'mode of production' interpretation of historical materialism. Like the positivists, Miller would assimilate social science into the natural sciences while rejecting the positivist analysis of science, both natural and social. And as I attempted to explain below, Miller attempted to reconcile Marxism with a sophisticated version of falsificationism.

One Marxist school that attempted to deal with, if not answer Popper were the Analytical Marxists. It is interesting to note Popper's influence on the Analytical Marxist school, both positively and negatively. G.A. Cohen in his ***Karl Marx's Theory of History:A***

Defense makes no mention at all of Popper, and yet his book reads to me as a kind of reply to Popper, since Cohen attempts to reformulate historical materialism (or at least historical materialism as understood by the Second International) as a rigorous empirical theory of history. William Shaw (in **Marx's Theory of History**) and Daniel Little (in **The Scientific Marx**), on the other hand, do attempt to answer directly Popper's criticisms of Marxism, and they both draw upon Lakatos' critiques of Popper, in doing so. Jon Elster in **Making Sense of Marx** presented a version of Analytical Marxism that was actually quite Popperian in tone, including an embracing of Popper's methodological individualism and rational choice approach to social science. Curiously enough, Elster made no mention of Popper, and yet it is hard to imagine that he arrived at his views without having drawn upon Popper.

In connection with the Analytical Marxian school there is another book that people may wish to look at on this issue, the unjustly neglected book **Analyzing Marx** by Richard W. Miller. In that book he drew a distinction between the technological interpretation of historical materialism which was articulated and defended by many writers of the Second International (i.e. Kautsky, Plekhanov) and which was cast into an especially rigorous form by G.A. Cohen in his **Karl Marx's Theory of History**, and what he called the mode of production interpretation which abjured the technological determinism and the economic determinism of the latter.

Miller drew a link between these two different interpretations of historical materialism and different philosophies of science. The technological interpretation, Miller linked to positivist philosophies of science with their **covering-law models of scientific explanation** and their presupposition of Humean notions concerning causality. Here, Miller did not draw a very sharp distinction between positivism and Popperism. While Popper clearly did not see himself as being a positivist, he nevertheless, still had many notions in common with them. In Miller's view Popper's hypothetico-deductivism placed him within the positivist camp. In any case, Miller contended that the technological interpretation of historical materialism does represent the sort of theory that can be regarded as falsifiable from a strictly Popperian standpoint. Hence, it is scientific by Popper's criteria. The only thing that is wrong with it is that history has indeed (as Popper had contended) falsified it, and the other thing that is wrong with it, is that in Miller's view it represented a distorted interpretation of how Marx undertook the study of history and political economy. The mode of production interpretation in Miller's view offers us a view that is closer to the spirit of Marx's actual methodology. But it is not falsifiable in the strict Popperian sense. One might then think that Miller would have proposed to throw away falsifiability as a criterion of demarcation between science and non-science but surprisingly enough he does not. Instead, he attempted to reconstruct the notion of falsifiability, drawing upon the work of Thomas Kuhn and Paul Feyerabend. He embraced their historicist approach to the philosophy of science and he developed a reconstructed version of the notion of falsifiability. The mode of production interpretation of historical materialism while perhaps not falsifiable in Popper's sense, is nevertheless falsifiable in Miller's sense and that justifies retaining the label of

science for it. Miller also BTW contended that the positivist (and Popperian) analysis of natural science is fundamentally flawed so that while the positivists were quite correct in seeking a unified science which would assimilate the social sciences into the natural sciences, they misunderstood the nature of natural science. For Miller, the antipositivists were correct in attacking positivism for trying to force social science into a narrow mold centering around the covering-law model and deductive-nomological models of explanation and Humean causality, but the same flaws also applied to their analysis of natural science. In reality, such an analysis, in Miller's view is not properly applicable to either natural science or social science.

And returning to the issue of whether or not a science of history is possible that can predict the future course of societal development, Popper's argument seems to rest on certain confusions. He was correct to argue that we cannot predict in detail the nature of future scientific discoveries or technological innovations since making those sorts of predictions would be the equivalent of our making those discoveries ourselves. But people can and do make predictions about what sorts of things may be discovered by science in the future and what technological innovations may be made. We can make those sorts of predictions without having to specify in detail how those discoveries or innovations will be made in the future. Thus it was possible earlier this year (2020) when the COVID-19 pandemic first hit, for well-informed scientists to predict that a vaccine for it could be created within a year. That did not mean that those scientists back then could specify in detail how this vaccine would be made but they knew that given the research that had been done in the past in the effort to create vaccines against coronaviruses like SARS-CoV and the certainty that very considerable resources would be allocated to creating a vaccine against COVID-19 then it was not unreasonable to conclude that efficacious vaccines against COVID could be created within a year, as indeed seems to be the case. And it seems to me is all that the materialist conception of history requires for making predictions concerning future societal development.

Readers may also be interested in reading Maurice Cornforth's book *[The Open Philosophy And The Open Society. A Reply To Dr. Karl Popper's Refutations of Marxism](#)*, which as far as I am aware remains the only full length Marxist rebuttal to Karl Popper's critiques of Marxism.

For further reading

Helena Sheehan, *[Marxism and the Philosophy of Science: A Critical History](#)*

Loren Graham, *[Science, Philosophy, and Human Behavior in the Soviet Union](#)*

John Somerville, *[The Philosophy of Marxism: An Exposition](#)*

Addendum: Imre Lakatos March 28, 2021

The philosopher Imre Lakatos came from a Jewish background. During the Second World War, following the 1944 invasion of Hungary by Germany, he lost much of his family to the Holocaust. He himself joined the resistance which eventually led to his becoming a Communist. As a university student, and for some time afterwards, he was a hardcore Stalinist, and acted as a kind of enforcer within the academic world for the Communist regime. He took up graduate studies in philosophy and attended seminars conducted by György Lukács. He also spent some time studying in the Soviet Union too. When he returned to Hungary he became supportive of reformers within the Communist Party and so got into some hot water and was accused of being a revisionist. He was supportive of the 1956 uprising in Hungary and when that was crushed by the Soviet Union and other Warsaw Pact countries he fled to Austria and then to the UK. He continued his graduate studies in Britain and completed his PhD under the supervision of Richard Braithwaite. The title of his dissertation was "Proofs and Refutations" which challenged formalism within mathematics. He basically argued that the kind of analysis of scientific methodology that Karl Popper had proposed in his book *Conjectures and Refutations* could be extended to mathematics. Just as Popper had presented a fallibilist understanding of scientific methodology, Lakatos presented a fallibilist understanding of mathematical methodology. His analysis of mathematical methodology also incorporated many Hegelian ideas as well, such as the thesis-antithesis-synthesis triad. This synthesis of Popperian and Hegelian ideas led Lakatos's colleague Paul Feyerabend to quip that Lakatos was a "Pop-Hegelian."

In the 1960's, Lakatos took a teaching post at the London School of Economics (LSE) which was also the academic home of Karl Popper. Working on the philosophy of science, he became intrigued with the ideas that Thomas Kuhn had presented in his *The Structure of Scientific Revolutions*. Lakatos would advance his own notion of "research programs" in which he sought to synthesize Popper's analysis of scientific methodology with Kuhn's ideas. Many people had read Popper as implying that a scientific theory should be immediately abandoned when it runs into disconfirming evidence (Popper himself rejected that reading), Lakatos sought to use his notion of research programs to show why that should not be the case. Kuhn had already argued that during periods of what he called "normal science" scientists will typically continue to adhere to a paradigm even in the face of observed anomalies. Lakatos endorsed this view. He drew a distinction between the hard core of theoretical assumptions that underlie a research program, which are not easily abandoned in the face of disconfirming evidence and the "auxiliary hypotheses" that supporters of a research program may invoke to explain or explain away disconfirming evidence. Lakatos argued that research programs could be classified as being either progressive or degenerative. A progressive research program is one where the auxiliary hypotheses actually increase the predictive and explanatory power of the research program. In the case of degenerative research programs, the auxiliary hypotheses merely explain away disconfirming evidence without augmenting the research program's predictive and explanatory power.

Lakatos saw his notion of research programs as augmenting Popper's "logic of discovery." As I understand it, Popper himself was less than enthusiastic about this and the two men had a falling out. However, like Popper, Lakatos was very much interested in what has become known as the "demarcation problem." That is, the problem of how to delineate criteria by which we can distinguish legitimate scientific theories from "metaphysics" on the one hand, and "pseudoscience" on the other hand. In Lakatos's view when a research program degenerates too much it can become pseudoscience, so that the research program no longer leads to the discovery of new facts. For Lakatos, examples of pseudoscience included theories like astrology, Freudian psychoanalysis, Lysenkoan biology, and Soviet Marxism. He did not think that all forms of Marxism were necessarily pseudoscientific.

As I noted before, some Analytical Marxist writers like William Shaw and Daniel Little have used some of Lakatos's ideas to rebut Popper's critiques of Marxism. It seems to me that Lakatos was able to retain much of the spirit behind Popper's analysis of scientific methodology while presenting a more flexible approach to issues like the demarcation problem and that can, I think, lead to a more fruitful understanding of the scientificity of Marxism.

On the other hand, Richard W. Miller did not draw upon Lakatos in his analysis of Marxism and historical materialism. Instead, he drew directly upon Thomas Kuhn and Paul Feyerabend, but by that route was able to reach similar conclusions to those of Shaw and Little. Also, we might want to keep in mind, that many commentators on Lakatos have noted the Hegelian aspects of his thought too.